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Heart Failure and Cardiomyopathies

HIGH MIDVENTRICULAR VELOCITY EARLY POST-MYECTOMY DOES NOT ADVERSELY AFFECT PROGNOSIS IN PATIENTS WITH HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY

Poster Contributions
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Background: Septal myectomy remains the gold-standard for symptomatic, medically-refractory patients with hypertrophic obstructive cardiomyopathy (HCM). Early post-myectomy, patients may demonstrate a high, late-peaking, mid-ventricular velocity (MVV). Whether presence of a high early post-operative MVV adversely affects downstream symptoms and mortality is unknown.

Methods: Transthoracic echocardiography (TTE) within 1 week of myectomy was reviewed for myectomies between 2003-2012 (n=1444). A high MVV was defined as a late-peaking, mid-ventricular velocity >2.2 m/s in the absence of left ventricular outflow tract (LVOT) obstruction. Patients with MVV were age- and gender- matched in a 2:1 fashion to myectomy patients without postop MVV. Symptoms and mortality were ascertained by medical record review and post-operative survey. Kaplan Meier survival curves were assessed via log-rank test.

Results: 70 patients (5%) had a post-myectomy MVV (age 53.3±13.6 y, 50% male). There was no difference in pre-operative maximal LVOT gradient between MVV cases and matched controls. Median post-operative follow-up for patients with MVV was 0.2 (IQR 0.04-3.05) years vs. 1.02 (IQR 0.12-3.24) years for controls (P=0.045). There were no early perioperative deaths for either group. In late follow-up, there were no deaths in any of the MVV cases vs. 3 for HCM controls, median time to death 1.9 years, log rank P=0.25. Follow-up inclusive of symptom assessment >60 days post-operatively was available in 98 patients (47%), with no difference in loss to follow-up. There was no difference in post-operative NYHA class III/IV symptoms for these patients (21% for MVV cases vs. 19% for controls, P=0.77). Late TTE (>60 days post-op) was available for 11 MVV patients. Late TTE demonstrated resolution of MVV in 7 patients (64%); MVV fell from 38±13 mmHg to 14±16 mmHg, P=0.69 given small sample size.

Conclusion: In HCM patients undergoing septal myectomy, an early, late-peaking, high MVV post-op does not carry adverse prognosis or portend worse symptomatic outcomes. In the majority of patients, MVV resolves on late TTE and likely reflects transient hyperdynamic left ventricular function as opposed to true obstruction.